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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,471	01/26/2007	Armando Fonseca	289120US2X PCT	7172
22850 7590 09/12/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER NGUYEN, HANH N	
			ART UNIT 2834	PAPER NUMBER
			NOTIFICATION DATE 09/12/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/576,471	<b>Applicant(s)</b> FONSECA ET AL.	
	<b>Examiner</b> HANH N. NGUYEN	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/20/06</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

### **DETAILED ACTION**

1. Applicant is reminded of the proper content of an abstract of the specification.

#### **Content of Specification**

- (a) Title of the Invention
- (b) Cross-References to Related Applications:
- (c) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
  - (1) Field of the Invention:
  - (2) Description of the Related Art:
- (d) Brief Summary of the Invention:
- (e) Brief Description of the Several Views of the Drawing(s):
- (f) Detailed Description of the Invention:

#### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “end plate” in claims 14, 15 and “ferromagnetic stubs situated between the bars” in claim 20 must be shown or the feature canceled from the claims (it is noted that Figs. 9 and 10 show non magnetic spaces 25 between the bars). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

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number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11-20 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: Figs. 1 and 1A show a diagram of an electric transmission in which two electric machines have 2

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windings 6 and 7 with inner rotor 3 while Figs. 2A, 2B, 2C, Fig. 3 show only winding 7 without inner rotor.

4. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 11, the limitation: "the windings comprise a plurality of annular windings juxtaposed in the space, the windings being supplied by alternating currents shifted in phase relative to one another" (supported in page 6, lines 10-13 in the specification) is not understood to an ordinary skill in the art" because the electric transmission as claimed in claim 1 includes one machine converting mechanical energy to electrical energy (electric generator), the other electric machine converting electrical energy to mechanical energy (electric motor). The electric generator generates alternating currents while the electric motor received alternating currents and the windings of both machines should not being supplied by alternating current of a power source.

Claims 12-20 are dependent claims of claim 11.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

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a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minawaga et al (US 6,472,485). in view of Sakamoto (US 6,504,272).

Regarding claim 11, Minawaga et al. disclose an electric transmission, comprising: two electric machines (two machines with outer rotor 5 and inner rotor 4), a shaft (12 in Fig. 2) of one of the electric machines being connected to a motive power source (engine), the one machine converting mechanical energy to electrical energy (the generator associate with rotor 3 as described in abstract and Col. 3, lines 65-66), the other electric machine converting electrical energy to mechanical energy (the motor associate with rotor 4 as described in abstract and Col. 3, lines 65-66), its shaft (13) being connected to the element to be driven, rotors of both machines being disposed concentrically or axially relative to one another, the rotors cooperating with stators (2) whose windings are disposed inside a space defined by the rotors, the windings being supplied by alternating currents shifted in phase relative to one another (Col. 2, lines 25-40). Minawaga et al. fail to show the windings comprise a plurality of annular windings juxtaposed.

However, Sakamoto discloses a motor structure wherein the windings comprise a plurality of annular windings juxtaposed (3a and 3b in Fig. 1) for the purpose of reducing cost (Col. 2, lines 18-24 and 49-51).

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Since Minawaga et al. and Sakamoto are in the same field of endeavor, the purpose disclosed by Sakamoto would have been recognized in the pertinent art of Minawaga et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Minawaga et al. by using the windings comprise a plurality of annular windings juxtaposed as taught by Sakamoto for the purpose of reducing cost.

Regarding claim 13, Minawaga et al. also show an electric transmission wherein the stator windings are disposed in the space between the two rotors and comprise a first layer of windings cooperating with one of the rotors, surrounding a second layer of windings cooperating with the other rotor, the two annular layers of windings being connected mechanically (Fig. 3).

Regarding claim 14, Sakamoto also shows an electric machine wherein each winding (33b1 and 33b2 in Fig. 11) is disposed in a core of ferromagnetic material (32a1, 32b1) covered laterally on each side by an end plate (31a1, 31b1) of ferromagnetic material provided opposite the rotor with claws (CP1', CP1) engaged between the claws of the end plate situated on the other side of the core.

Regarding claim 15, Sakamoto also shows an electric machine wherein each winding is disposed in a core of ferromagnetic material covered laterally on each side by an end plate (31a1, 31b1 in Fig. 11) of ferromagnetic material provided opposite the rotor with teeth pointing toward the rotor (it is noted that claw pole CP1 also extend in radial direction).

Regarding claim 16, Sakamoto also shows an electric machine wherein each rotor is provided at its periphery with a cylindrical yoke (10 in Fig. 7) of ferromagnetic material, supporting a series of magnets (11) on its internal face pointing toward the stator windings.

Regarding claim 17, Sakamoto also shows an electric machine wherein each rotor is provided on its periphery with a series of ferromagnetic stubs (11 in Fig. 7) extending opposite the stator windings (it is noted that magnets 11 are also located at opposite side of the windings).

Regarding claim 18, Minawaga et al. also shows electric transmission wherein the annular space between the two rotors (3 and 4 in Fig. 1) is provided with a single series of juxtaposed windings.

Regarding claim 19, Minawaga et al. also shows an electric transmission wherein peripheral surfaces of the two rotors are adjacent to one another and the annular windings of the stator are situated opposite the internal surface of the rotor that is situated inside the other rotor (Fig. 1).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minawaga et al (US 6,472,485). in view of Sakamoto (US 6,504,272) and further in view of Nakano (US 6,639,337).

Regarding claim 12, Minawaga et al. and Sakamoto show all limitations of the claimed invention except showing an electric transmission wherein one of the rotors is



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mounted to rotate on the shaft of the other rotor, and the other rotor drives the rotation of a shaft axially offset from the shaft of the one rotor.

However, Nakano discloses an electric transmission wherein one (rotor 3 in Fig .1) of the rotors is mounted to rotate on the shaft (5) of the other rotor (rotor 2), and the other rotor drives the rotation of a shaft (5) axially offset from the shaft (4) of the one rotor for the purpose of reducing current lost of the motor/generator (Col. 1, lines 30-35)

Since Minawaga et al., Sakamoto and Nakano are in the same field of endeavor, the purpose disclosed by Nakano would have been recognized in the pertinent art of Minawaga et al. and Sakamoto.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Minawaga et al. and Sakamoto by making one of the rotors mounted to rotate on the shaft of the other rotor, and the other rotor drives the rotation of a shaft axially offset from the shaft of the one rotor as taught by Nakano for the purpose of reducing current lost of the motor/generator.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minawaga et al. in view of Sakamoto and further in view of Muller (US 3,939,370).

Regarding claim 20, Migawa et al. and Sakamoto show all limitations of the claimed invention (Fig. 11 of Sakamoto) except showing an intermediate rotor forming an asynchronous cage provided with conductive bars parallel to the axis of the rotor and a series of ferromagnetic stubs situated between the bars, the intermediate rotor being surrounded by an external rotor provided with conductive bars composed of

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segments parallel to the rotor axis and offset angularly relative to one another and a series of ferromagnetic stubs situated between the bars.

However, Muller discloses an electric motor wherein an intermediate rotor (7 in Fig. 1) forming an asynchronous cage provided with conductive bars (8 in Fig. 2) parallel to the axis of the rotor and a series of ferromagnetic stubs (laminations made of ferromagnetic material) situated between the bars, the intermediate rotor being surrounded by an external rotor (11) provided with conductive bars (3) composed of segments parallel to the rotor axis and offset angularly relative to one another and a series of ferromagnetic stubs situated between the bars for the purpose of reducing the Eddy current (Col. 1, lines 17-27)

Since Minawaga et al., Sakamoto and Muller are in the same field of endeavor, the purpose disclosed by Muller would have been recognized in the pertinent art of Minawaga et al. and Sakamoto.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Minawaga et al. and Sakamoto by making an intermediate rotor forming an asynchronous cage provided with conductive bars parallel to the axis of the rotor and a series of ferromagnetic stubs situated between the bars, the intermediate rotor being surrounded by an external rotor provided with conductive bars composed of segments parallel to the rotor axis and offset angularly relative to one another and a series of ferromagnetic stubs situated between the bars as taught by Muller for the purpose of reducing the Eddy current.

### ***Conclusion***

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1000.

HNN

September 7, 2008

/Nguyen N Hanh/

Primary Examiner, Art Unit 2834

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